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(54) PAPER TRIMMERS

(71) We, PATERSON PRODUCTS LIMITED, a British company of 2-6 Boswell Court, London, WC1N 3PS, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:-

This invention relates to paper trimmers. Many types of apparatus are known for trimming paper, the most well known probably being the standard guillotine. In a standard guillotine, a base board on which paper is to be cut has one edge formed as a square cut hard metal blade. Pivotaly secured to that edge is a second metal blade co-operating therewith in the manner of a pair of scissors which may be brought down to cut off any paper projecting over the edge of the fixed blade. There are several varieties of such guillotines commercially available, and they have been known for decades.

In recent years rotary paper trimmers have been developed which retain the fixed blade along the edge of a board but which replace the expensive pivotal blade with a rotating cutter wheel. The rotating cutter wheel is caused to travel along the edge of the fixed blade bearing against it as it does so and this accordingly cuts by scissors action any paper projecting over the edge of the fixed blade. Cutters of this type are described in British Patent Specification 1,247,681 and 1,334,854.

A disadvantage of the paper trimmers described in the British Patent Specifications just referred to resides in the necessity of providing a guide bar along which the carriage bearing the rotary cutting wheel may run. This guide bar must of necessity be straight and accurately parallel with the fixed blade.

According to the present invention there is provided a paper trimmer comprising a base board, a fixed cutter blade set in one edge of the board, a guide rail mounted above and spaced from the cutter blade and a carriage mounted on the guide rail, the carriage containing a cutter wheel abutting the fixed blade and adapted to be

turned, as the carriage is slid on the guide, by engagement of a friction drive wheel coaxial with the cutter wheel on the upper surface of the guide rail.

Preferably the guide rail and carriage are held together by a key-configuration, e.g. a dovetail. Preferably the cutter wheel and the drive wheel are on opposite sides of a journal formed in the carriage to support the assembly of drive wheel and cutter wheel.

In a particularly preferred feature, the assembly of cutter and drive wheel may be angularly displaceable to ensure that as the carriage is moved along the guide rail, the forward edge of the cutting wheel abuts the cutter blade. The amount of angular movement need only be a few degrees in order to ensure that as the carriage is moved forward, the blade edge of the cutter wheel "tocs in" to the cutter blade. The tracking edge of the cutter wheel is then out of contact with the cutter blade, which reduces wear.

Preferably in such an arrangement means are included to bias the assembly of cutter and drive wheel into one of two positions, angularly symmetrical with respect to a plane perpendicular to the cutting edge of the cutting blade.

The invention is illustrated by way of example, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a paper trimmer according to the invention, 85
 Figure 2 is a section along the lines 2-2 of Figure 1,

Figure 3 is an under plan view of the cutter head, and

Figure 4 is a view of a spring and part of a stubshaft. 90

Referring to the drawings, the trimmer consists of a base board 1 in the edge of which is set a steel blade 2. Supported above blade 2 and spaced a little way therefrom (to allow insertion of paper to be trimmed) is a transparent plastics guide rail 3 having a chamfered edge 11 to facilitate paper insertion. Engaged on a dovetail portion 4 of rail 3 is a carriage 100

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housing 5. Inside carriage housing 5 is an assembly of a metal cutter wheel 6, drive wheel 7 and stubshaft 8. Shaft 8 is journaled at its end remote from wheel 7 in a part of the carriage housing 5. Wheel 7 is made of suitable frictional material, and is pressed into contact with rail 3 by means of a spring 12 located in the housing. As the carriage is slid up and down rail 3, wheel 6 executes a scissors cutting action along blade 2 and cuts through any paper projecting over the edge. Wheel 6 is held biased against blade 2 during use by the action of an upstanding rib 9 on rail 3 on part of shaft 8.

Spring 12 has two depressed areas into which the wheel 7 may locate and dependent on which the cutter wheel assembly will be in the position shown in Figure 3 in dashed or in full lines. As the housing 5 is moved, wheel 7 takes up that of the two positions shown in Figures 3 and 4 where the wheel is trailing. This causes the leading edge of cutter wheel 6 to "toe in" to cutter blade 2, thus ensuring clean cutting and minimising wear.

The paper to be trimmed may be trimmed at a right angle by butting one edge of the paper against a rule 10 set on base 1 in known fashion. Sunk in base 1 are two grooves to facilitate lifting paper from the base.

WHAT WE CLAIM IS:—

1. A paper trimmer comprising a base

board, a fixed cutter blade set in one edge of the board, a guide rail mounted above and spaced from the cutter blade and a carriage mounted on the guide rail, the carriage containing a cutter wheel abutting the fixed blade and adapted to be turned, as the carriage is slid on the guide, by engagement of a friction drive wheel coaxial with the cutter wheel on the upper surface of the guide rail.

2. A paper trimmer according to claim 1 wherein the guide rail and carriage are held together by a key-configuration.

3. A paper trimmer according to claim 1 or 2 wherein the assembly of cutter and drive wheel is angularly displaceable so that as the carriage is slid on the guide rail, the leading edge of the cutter wheel contacts the cutter blade and the trailing edge is out of contact therewith.

4. A paper trimmer according to claim 3 wherein means are provided to bias the assembly of cutter and drive wheel into one of two positions angularly symmetrical with respect to a plane perpendicular to the cutting edge of the cutting blade.

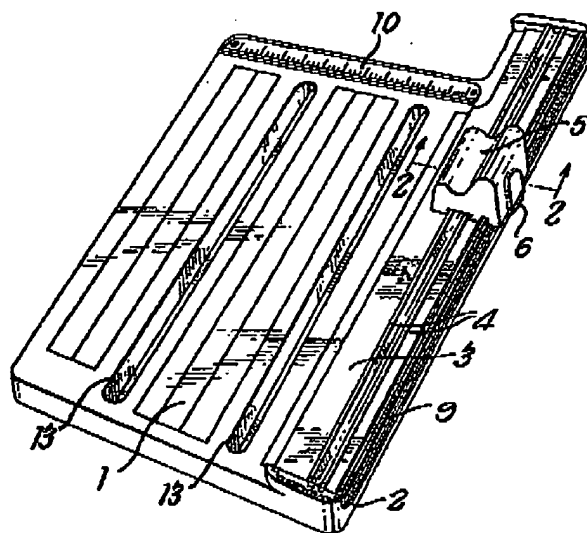
5. A paper trimmer substantially as hereinbefore described with reference to the accompanying drawings.

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Fig. 1



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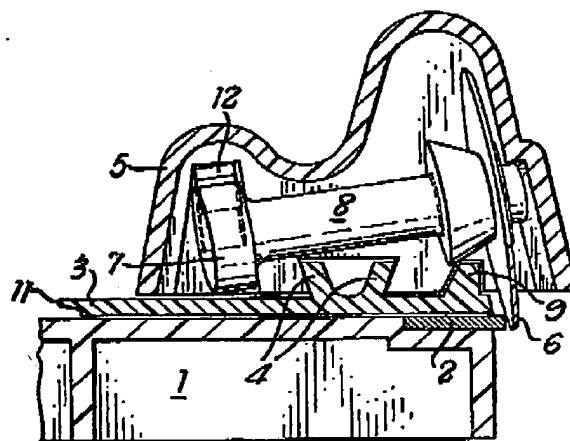
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Sheet 2

Fig. 2



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